

FIG. 1

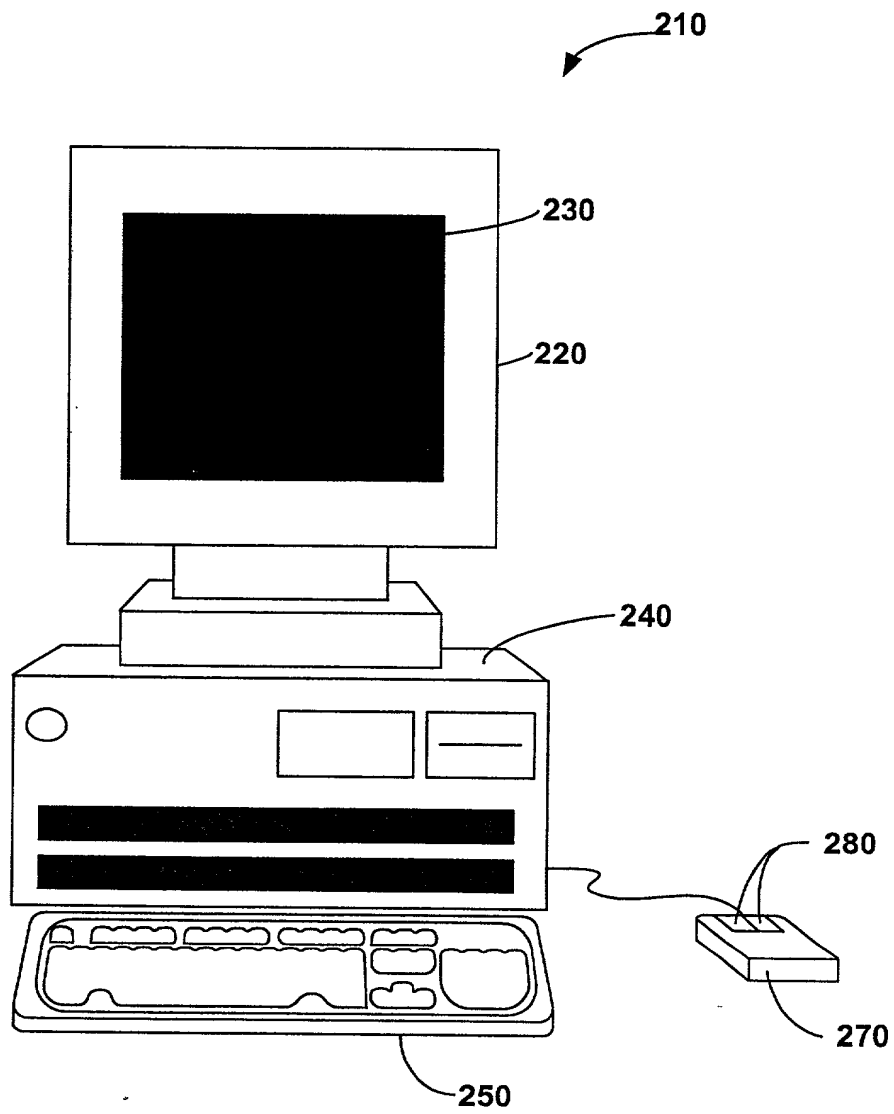


FIG. 2

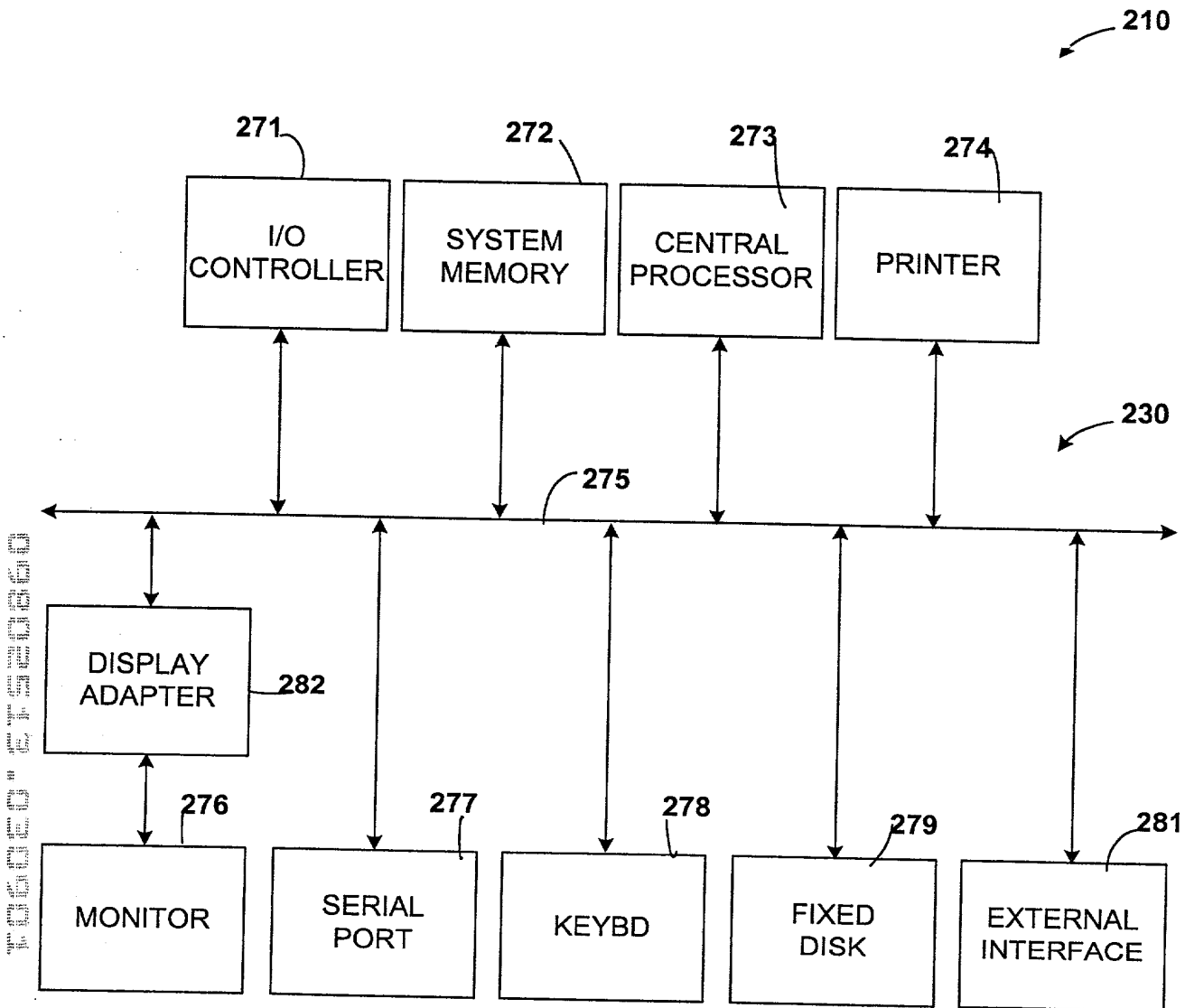


FIG. 2A

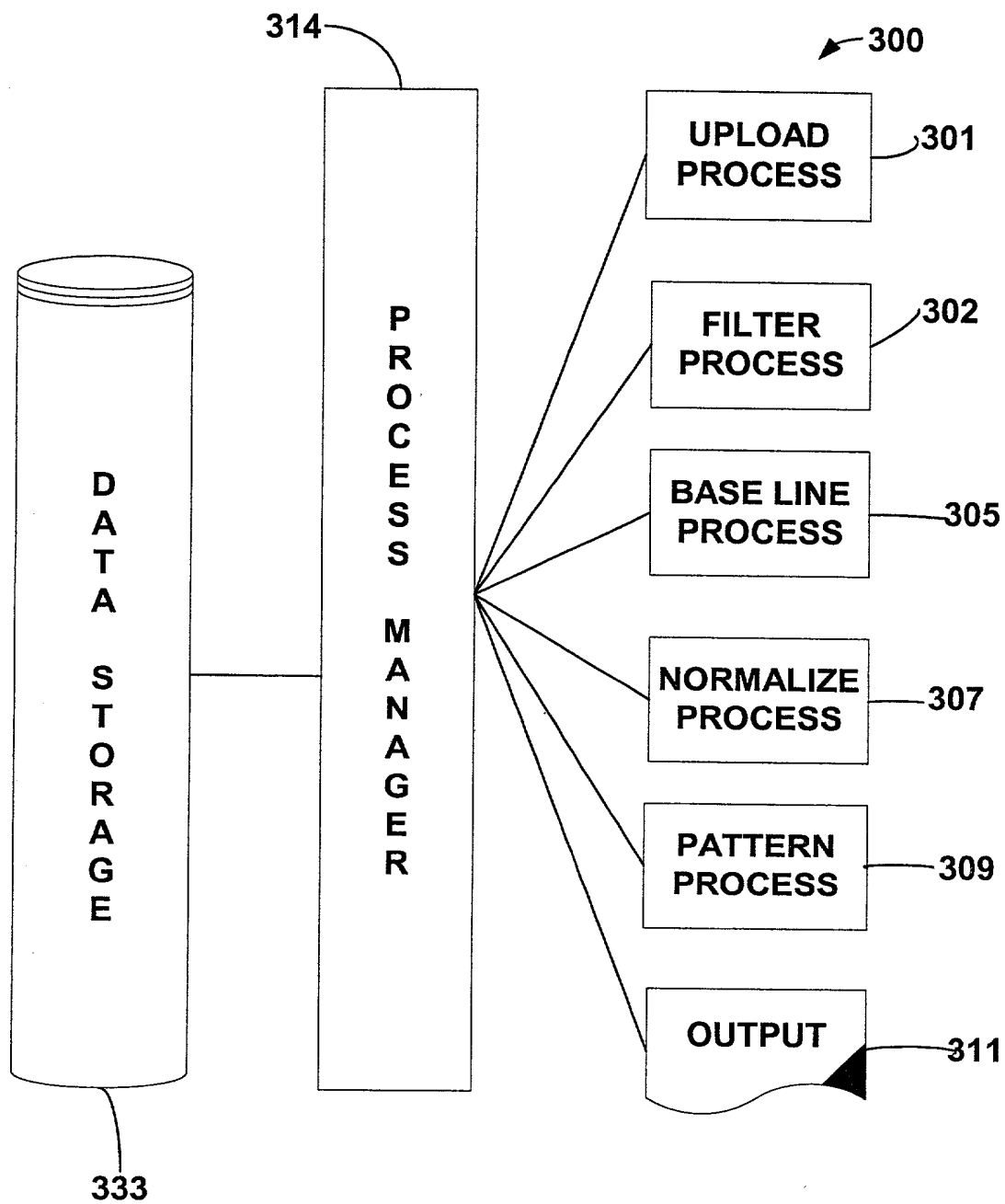


FIG. 3

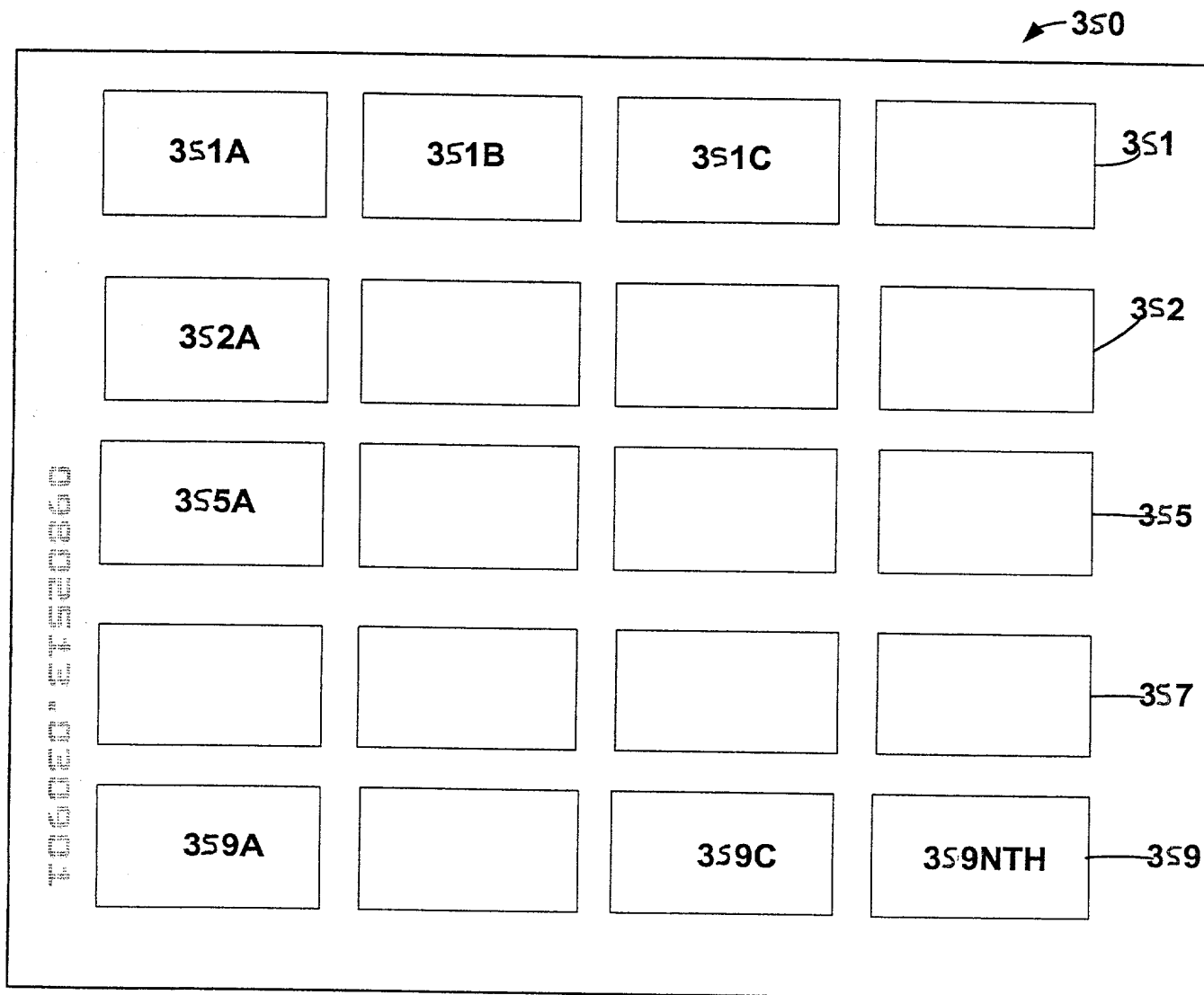


FIG. 3A

400

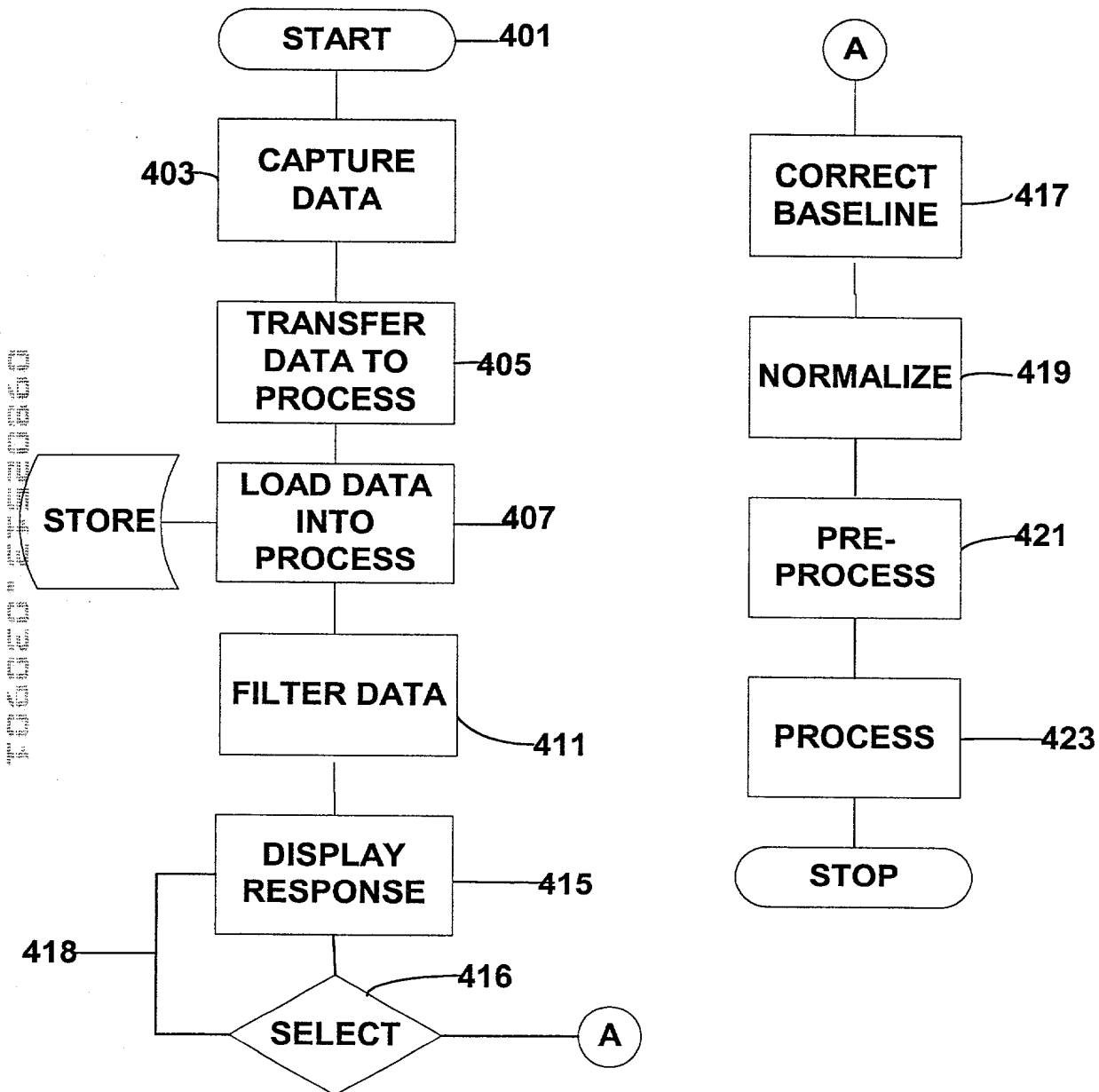


FIG. 4A

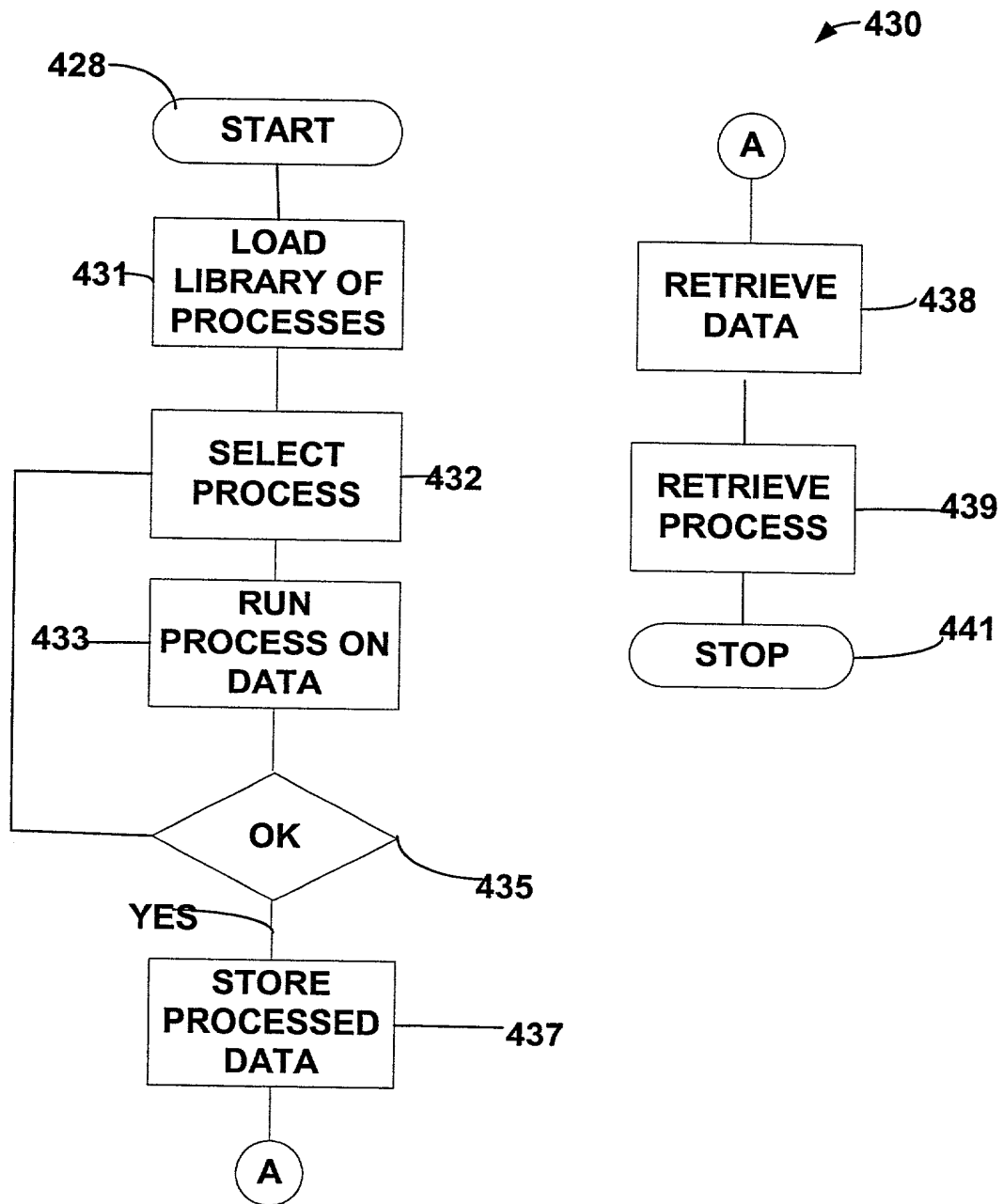


FIG. 4B

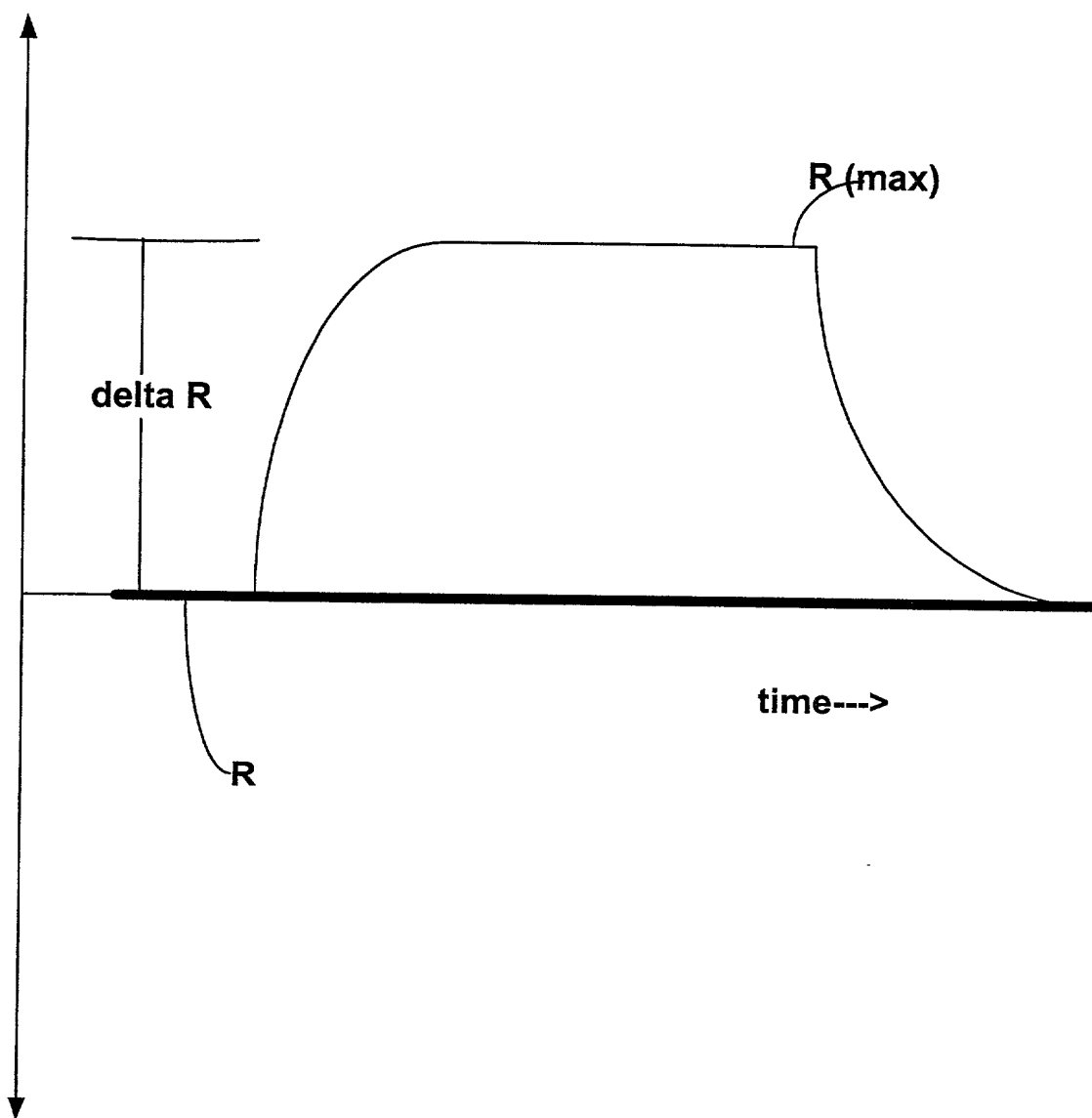


FIG. 4C

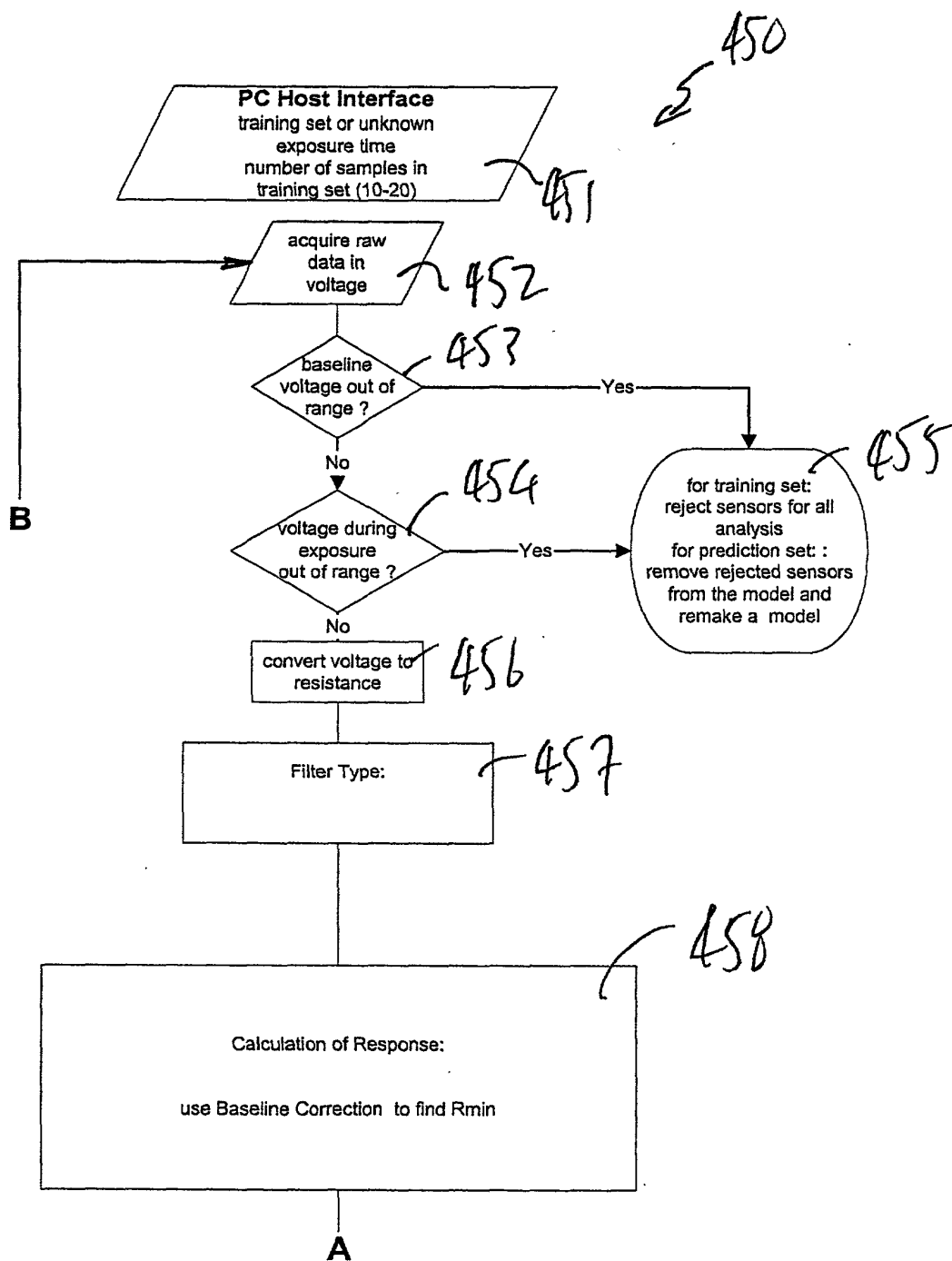


FIG. 4D

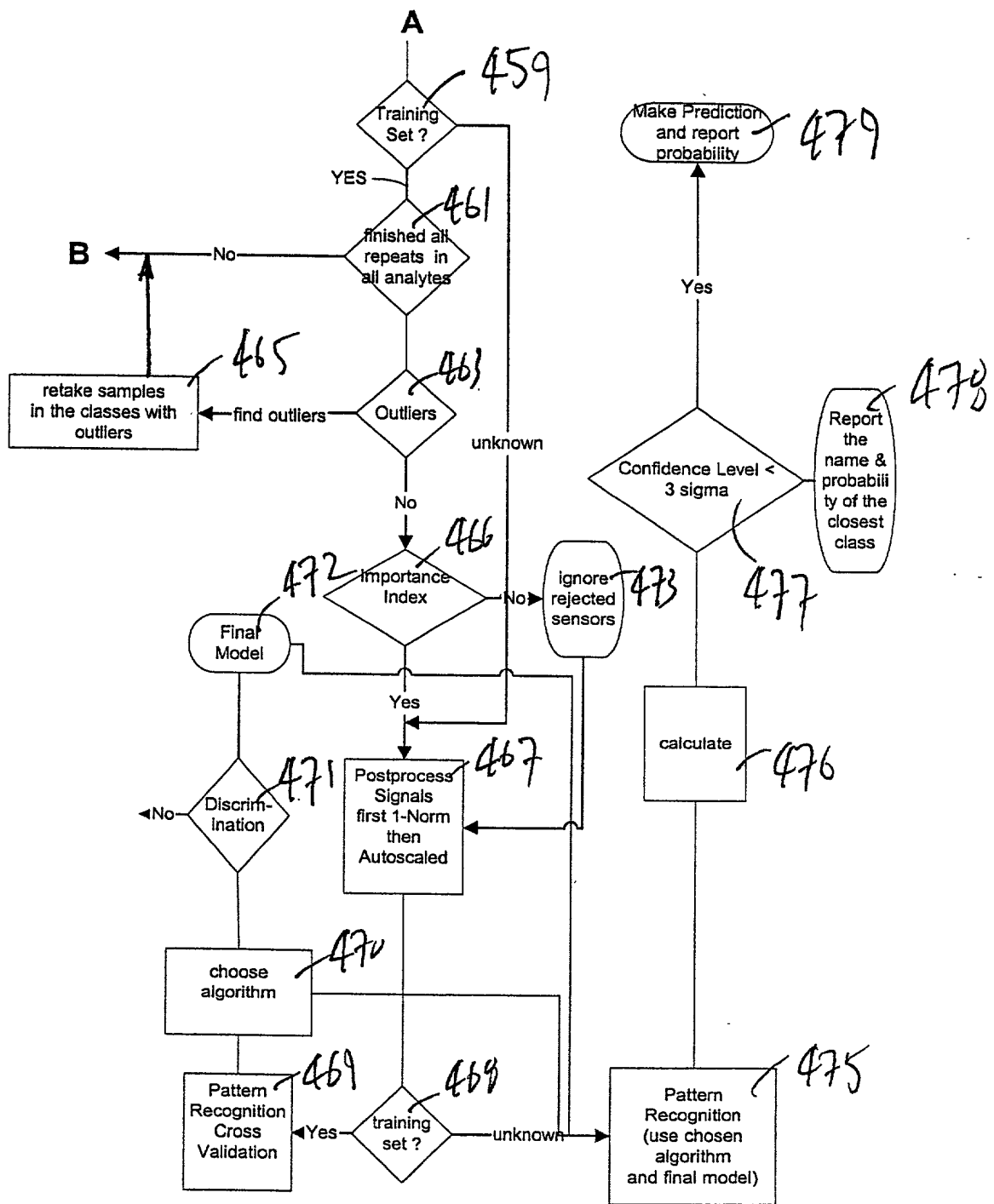


FIG. 4E

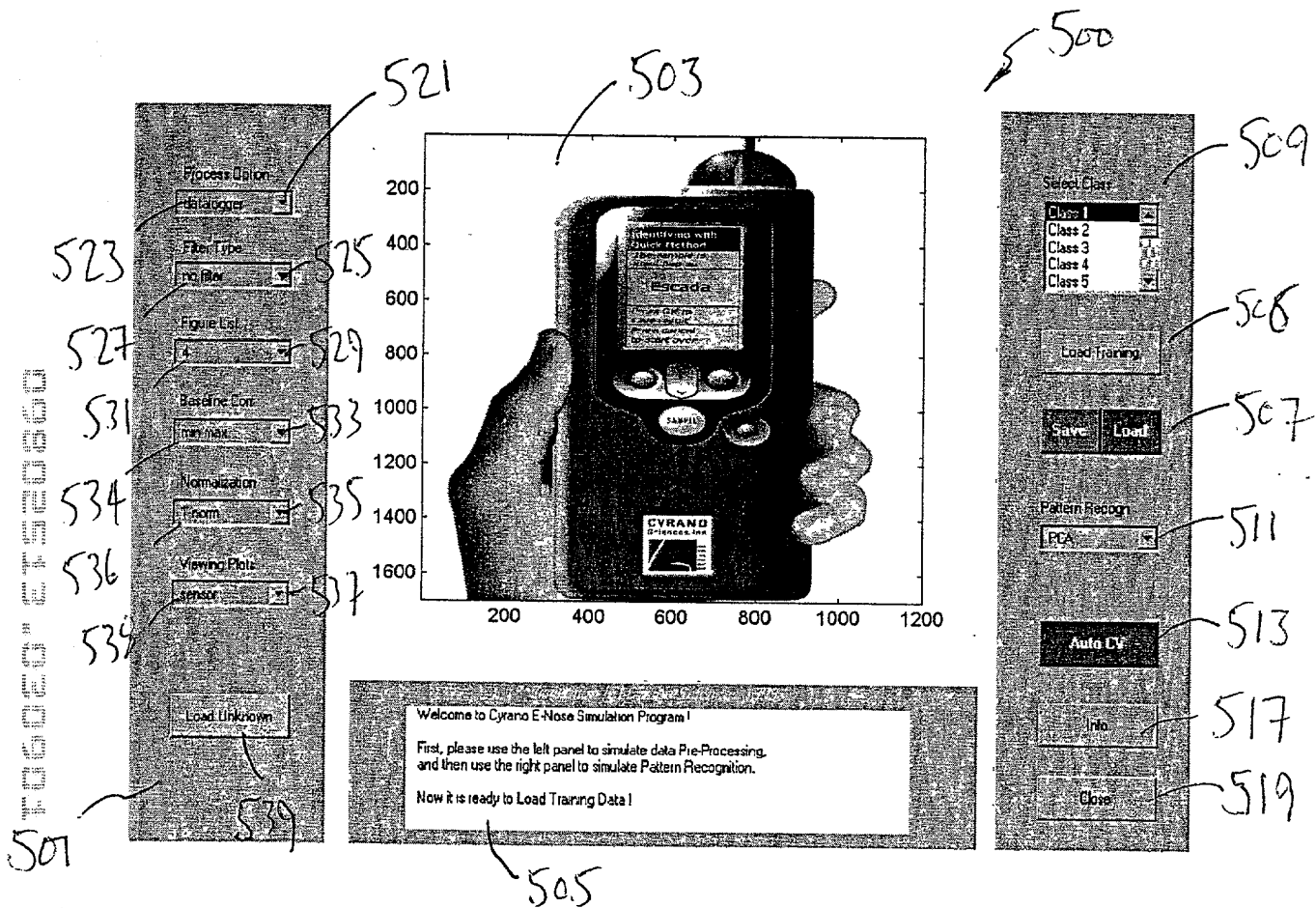


FIG. 5A

Process Option:

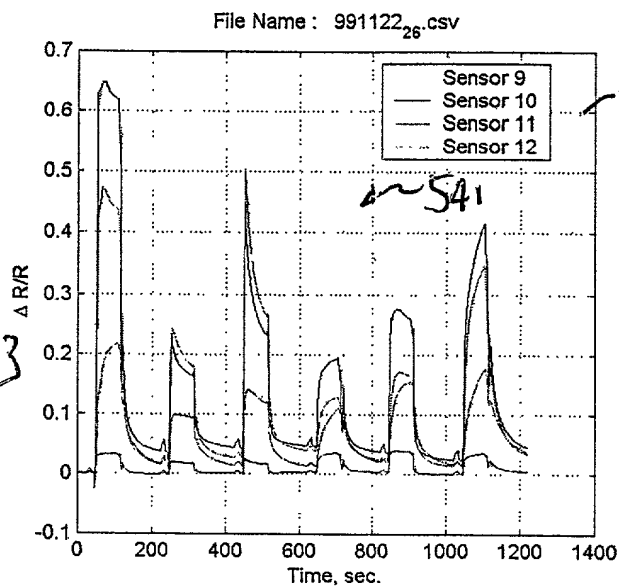
Filter Type:

Figure List:

Baseline Cor:

Normalization:

Viewing Plot:

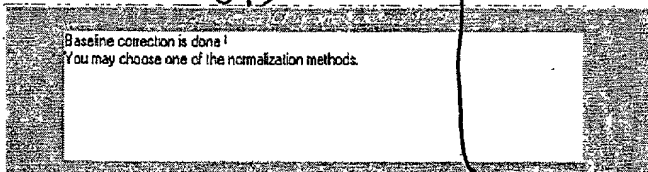


Response plot of sensors is Done!
 You may want to see another plot of sensor responses,
 or go to the next step to do the baseline correction.

Select Class:

Pattern Recogn:

FIG. 5B



Select Class

Class 1
Class 2
Class 3
Class 4
Class 5

Load Training

Save Load

Pattern Recogn...

PCA

Auto CVA

Info

Close

FIG. 5C

FIG. 5D

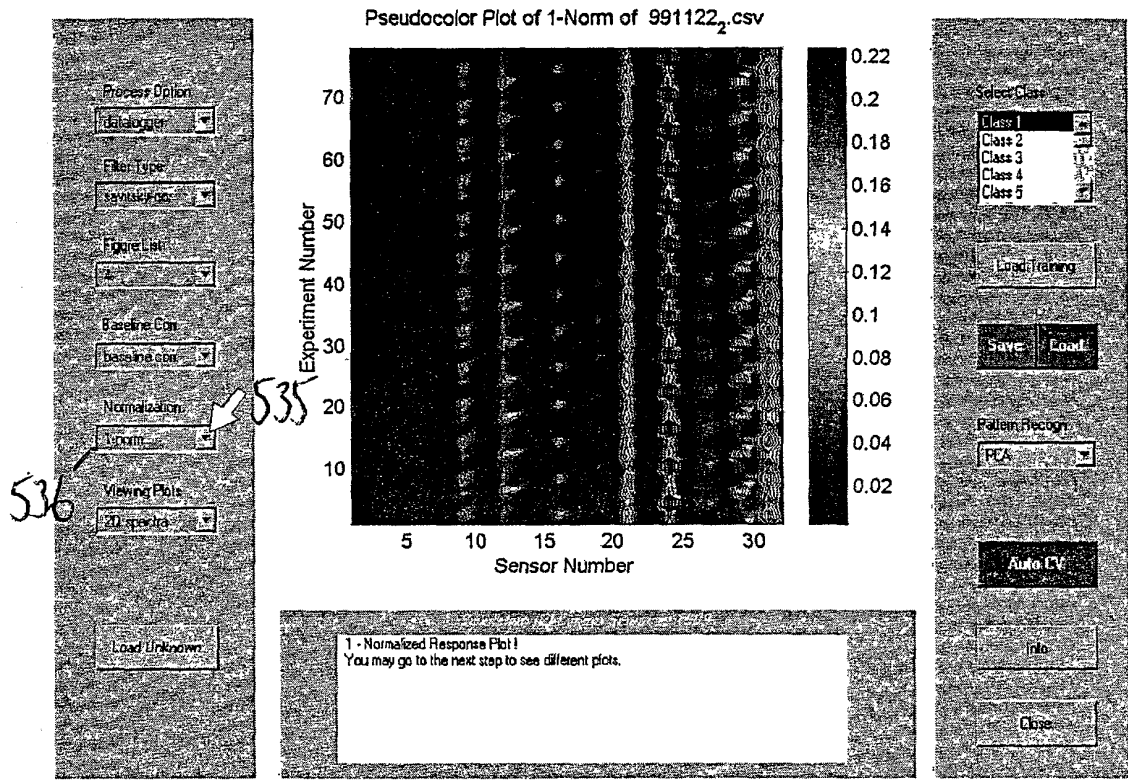


FIG. 5D

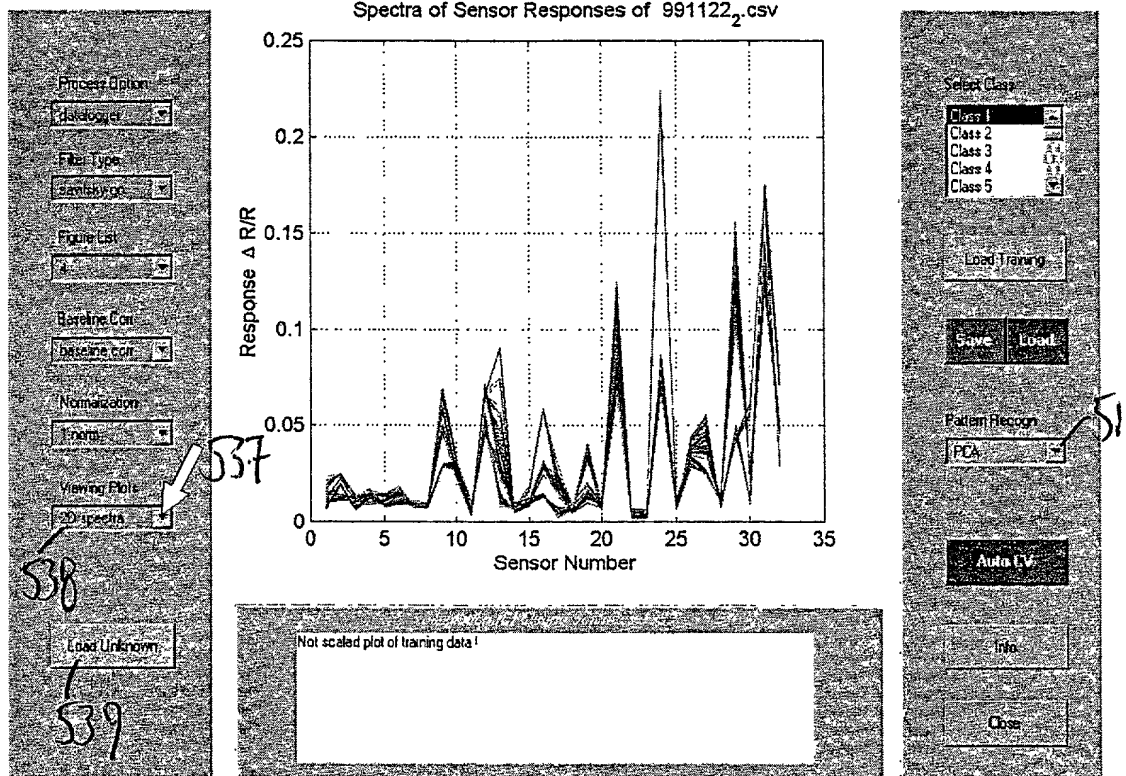


FIG. 5E

550

Var: trainpk
Data: modeled (calibration set)
Size: 60 rows x 32 cols
Samp Lbls: label
Var Lbls:

Model: calibrated on loaded data
PC(s): 4
Data: 60 sams x 32 vars
Scaling: autoscaled

Number of PCs Selected: 4

Percent Variance Captured by PCA Model

Principal Component	Eigenvalue of Cov(X)	% Variance This PC	% Variance Cumulative
1	1.51e+001	47.24	47.24
2	1.07e+001	33.36	80.60
3	3.54e+000	11.06	91.65
4	1.41e+000	4.40	96.05
5	4.38e-001	1.37	97.42
6	3.02e-001	0.94	98.36
7	2.04e-001	0.64	99.00
8	9.03e-002	0.28	99.28
9	5.73e-002	0.18	99.46
10	3.70e-002	0.12	99.57
11	2.74e-002	0.09	99.66
12	2.30e-002	0.07	99.73
13	2.00e-002	0.06	99.79
14	1.51e-002	0.05	99.84
15	1.34e-002	0.04	99.88
16	1.07e-002	0.03	99.92

calc

apply

plots

eigen

scores

loads

biplot

data

FIG. 5F

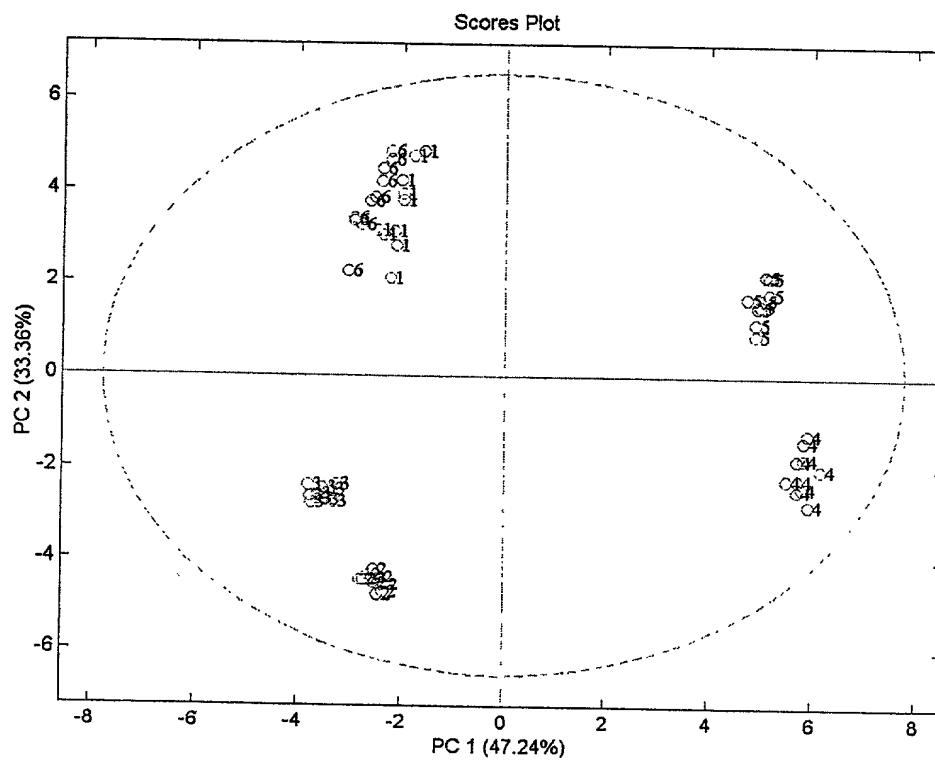


Fig. 56

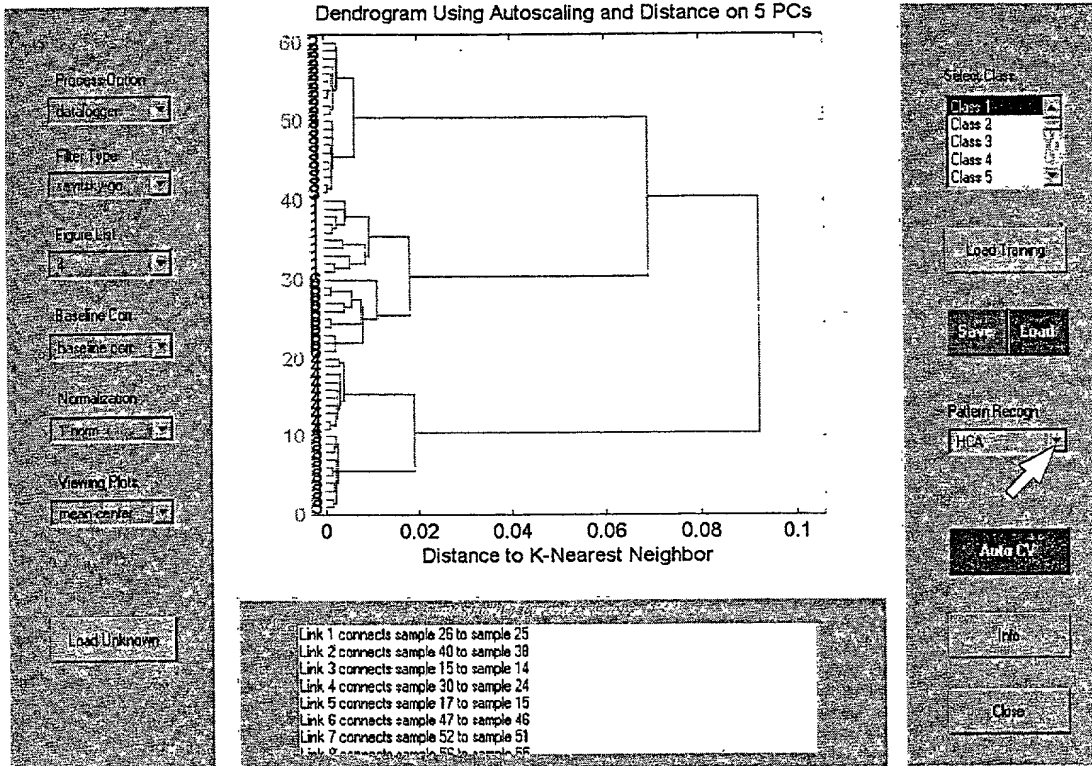


FIG. 5H

The screenshot displays the SIMCA 1.0 software interface. The central plot is a dendrogram titled "Dendrogram Using Mahalanobis Distance on 4 PCs". The x-axis is labeled "Distance to K-Nearest Neighbor" and ranges from 0 to 2.5. The y-axis represents the number of samples, ranging from 0 to 60. The dendrogram shows the hierarchical clustering of samples into five classes, with Class 1 at the top and Class 5 at the bottom. The distance between Class 1 and Class 2 is approximately 1.6, Class 2 and Class 3 is approximately 2.1, Class 3 and Class 4 is approximately 2.4, and Class 4 and Class 5 is approximately 2.5.

On the left side, there are several control panels:

- Process Data:** Includes buttons for "Autologging" and "Filter Type" (set to "No Filter").
- Figure List:** Includes a button for "Figure List" and a dropdown menu for "Figure" (set to "Figure 1").
- Baseline Calc:** Includes a button for "Baseline Calc" and a dropdown menu for "Baseline" (set to "Baseline 1").
- Normalisation:** Includes a button for "Normalisation" and a dropdown menu for "Normalisation" (set to "None").
- Viewing Plot:** Includes a button for "Viewing Plot" and a dropdown menu for "Viewing Plot" (set to "None").
- Load Unknown:** A button at the bottom left.

On the right side, there are several control panels:

- Select Class:** A dropdown menu for "Select Class" (set to "Class 1").
- Load Training:** A button.
- Save/Load:** Buttons for "Save" and "Load".
- Pattern Recogn:** A dropdown menu for "Pattern Recogn" (set to "Fisher DV").
- Apply:** A button with a mouse cursor pointing to it.
- No:** A button.
- Close:** A button.

At the bottom, a text box displays the following information:

Auto-CV is done! The top live predictions are:
 100.0 pct by using Fisher Linear with Auto-Scaling.
 100.0 pct by using Fisher Linear with Mean-Centering.
 100.0 pct by using SIMCA with Auto-Scaling.
 100.0 pct by using SIMCA with Mean-Centering.
 100.0 pct by using KNN with Auto-Scaling and PCA.

FIG. 5I

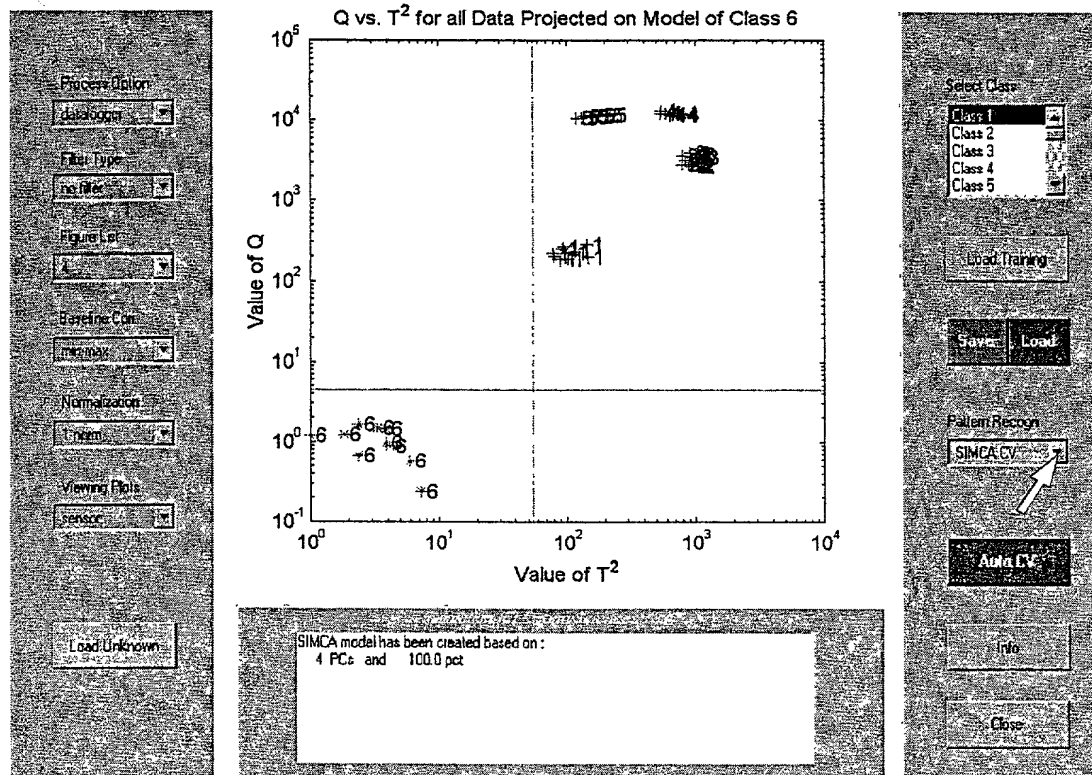


FIG. 5J

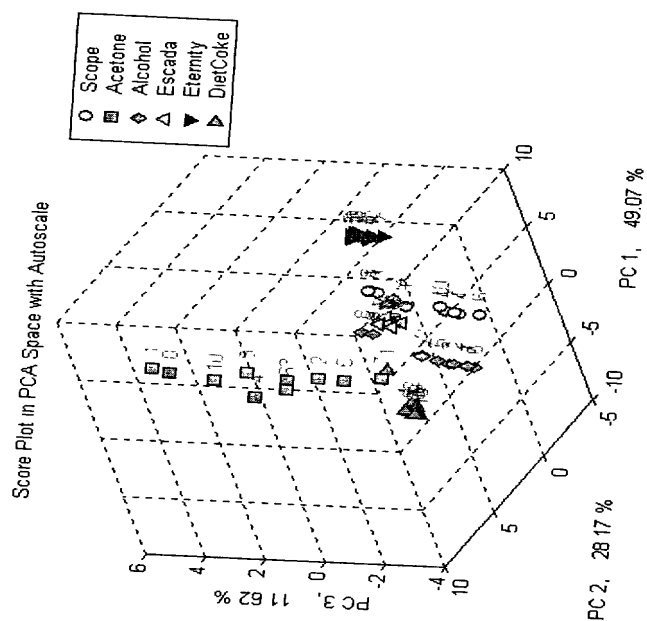


FIG. 5K

SCANNED # 14

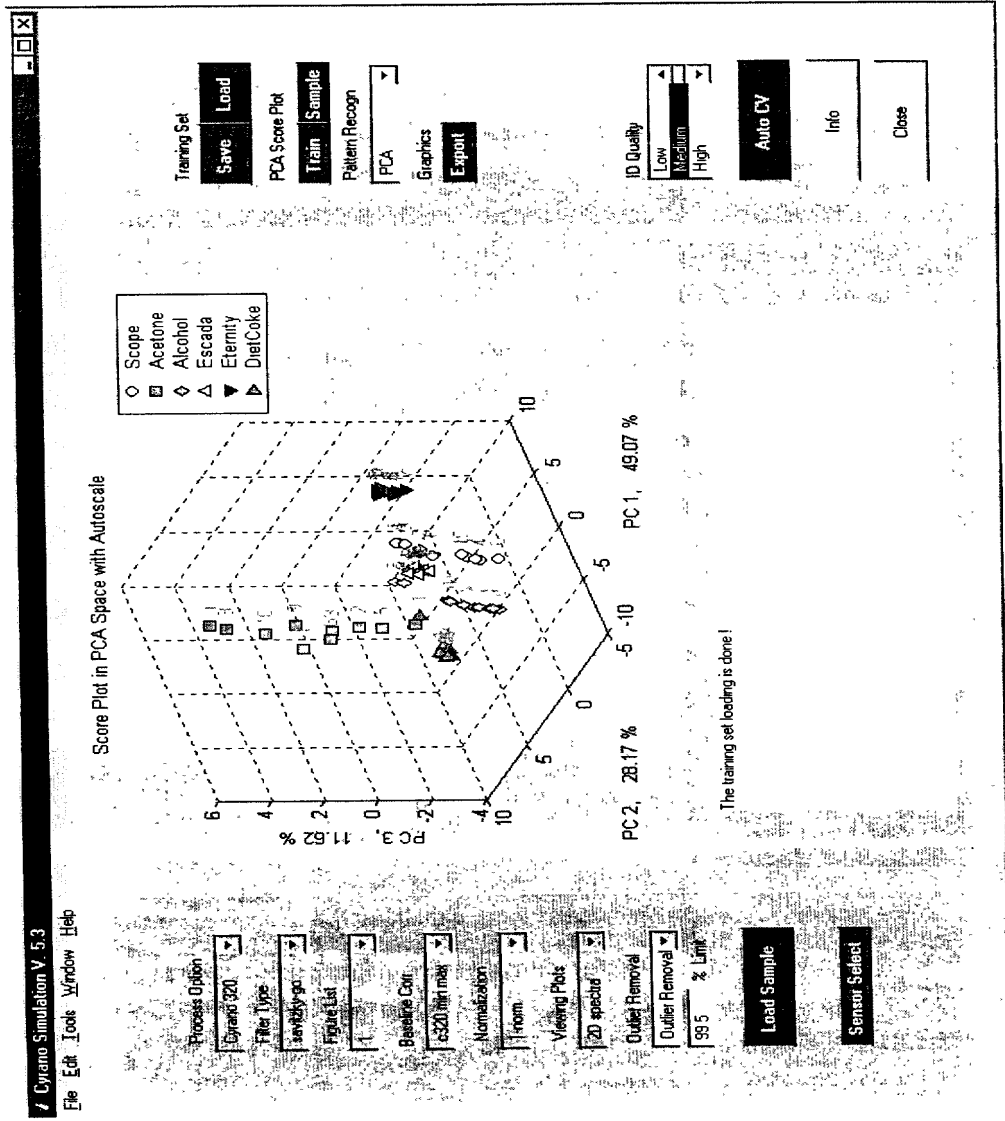


FIG. SL